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Worksheet: Graphing Linear Inequalities

Questions:

Problem 1:
Graph the inequality: $y > 2x - 3$

Problem 2:
Graph the inequality: $3y + x \leq 6$

Problem 3:
Graph the inequality: $2x + 3y > 9$

Problem 4:
Graph the inequality: $y \geq -x + 4$

Problem 5:
Graph the inequality: $2y - 4x < 8$

Problem 6:
Graph the inequality: $4x - 2y \geq -6$

Problem 7:
Graph the inequality: $-2x + y < 5$

Problem 8:
Graph the inequality: $3y \geq x - 2$

Problem 9:
Graph the inequality: $-x + 2y \leq 3$

Problem 10:
Graph the inequality: $y > \frac{1}{2}x - 1$

****Answers:****
1. The shaded region is above the line $y = 2x - 3$.
2. The shaded region is below the line $3y + x = 6$.
3. The shaded region is above the line $2x + 3y = 9$.
4. The shaded region is above or on the line $y = -x + 4$.
5. The shaded region is below the line $2y - 4x = 8$.
6. The shaded region is above or on the line $4x - 2y = -6$.
7. The shaded region is below the line $-2x + y = 5$.
8. The shaded region is above or on the line $3y = x - 2$.
9. The shaded region is below or on the line $-x + 2y = 3$.
10. The shaded region is above the line $y = \frac{1}{2}x - 1$.

Remember to plot the lines as solid or dashed depending on whether the inequality includes the corresponding boundary line or not. Shade the appropriate side of the line based on the inequality symbol ($<$, $>$, $\leq$, $\geq$). Feel free to graph these inequalities on graph paper or using graphing software to practice your skills.